

INDIANA STATE AMATEUR RADIO CLUB

MARC

"Ham Radio News from Johnson County, Indiana"

Volume XIII No.01 January 1997

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Crunch: Sweet Success

In a ceremony that resembled a Publishers Clearing House give-away, a 9 1/2 pound Nestle's Crunch Bar was handed to the grand prize winner. Lee Porter, KB9KDK accepted the 27,000 calorie candy bar from Raffle chairman Rick Reneau, KB9NDF. Lee said he would be donating the Giant Crunch Bar to the Wheeler Mission in Indianapolis. The month long raffle netted \$283.00 for the club's general fund. Rick Reneau spearheaded the money raising event. A table top drum roll heightened the drama as five runners-up and the grand prize winning entries were selected from a box full of raffle tickets. Those hams receiving the consolation smaller six pack of Nestle's Bars were: Bill Brinkmann, KA9ZMU; JR Osborne, KB9HSE; Vernon Gill, N9QBO; Bob LeGrange, N9SIU and Christine Parker, daughter of Jack, NT9J. Our thanks to Rick Reneau, the Nestle's Corporation and to everyone who bought and sold tickets. -MARC



Lee Porter, KB9KDK was the Grand Prize raffle winner at the December meeting. He won a 9 1/2 pound Nestle's Crunch Bar. Raffle master Rick Reneau, KB9NDF helped Lee carry the candy bar.

Be Smart - Pay Now

Club Dues for 1997 are now being accepted. Mid-State ARC Treasurer Vernon Gill, N9QBO, will be on hand at the January 18th meeting to accept the \$18.00 dues payment for the 1997 year. The dues may be paid to the Mid-State ARC via cash or check. Each club membership includes phone patch privileges in and around Johnson county, a monthly newsletter and occasionally a free donut and cup of coffee. All fees are used to maintain the club.

repeater and promote club activities like Field Day and the annual fall picnic.

Dues may be mailed to:

Mid-State ARC
P.O. Box 836
Franklin, In. 46131.

SPARK GAP

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Membership Information

The Mid-State Amateur Radio Club is a Franklin based organization open to all amateur radio operators in central Indiana.

The MARC meets the third Saturday of each month in the training room of the Johnson County Emergency Operations Center at 1100 Hospital Road in Franklin, In.

The MARC operates a 2-meter repeater at 146.835 MHz. Each club member has free access to the repeater and autopatch.

Annual membership is \$18.00. VE Testing follows each meeting from March through November.

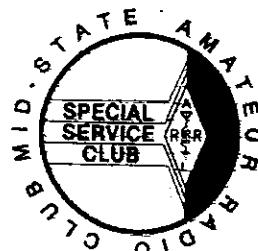
Submit stories to the editor on disk or via e-mail by the 3rd of each month.

Send change-of-address information and membership applications to the club treasurer @ MARC President, P.O. Box 836, Franklin, In. 46131.

The Spark Gap is published monthly by the Mid-State ARC.

MARC

CLUB OFFICERS



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Repeater Trustee:

Dave Julian, WB9YIG
H. 887-9504

Activities:

Jack Parker, NT9J
H. 881-0817

VE Team Coordinator

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Club Meeting

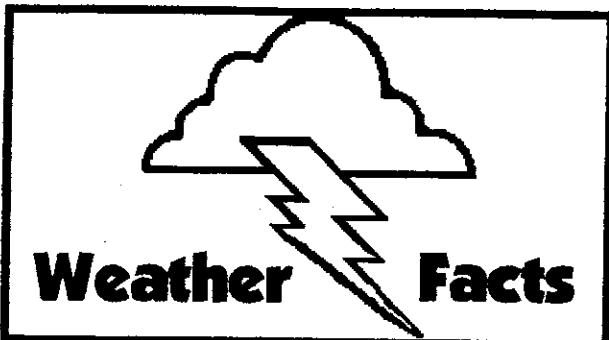
Saturday January 18th

8 a.m.

Guest speaker, Roger Lowery, W9BZ

Topic: Antique Ham Radios

No VE Testing



By **Mike Rosemark, KA9VMR**

NWS Meteorologist

A Chilling Proposition

Large temperature change has been the rule in central Indiana over the past several weeks. The temperature change from the 60's to the 20's in early January was signaled by the first batch of thunderstorms for 97. The storms were followed by strong west to northwest winds behind a cold front. If you were outside during the 24 hour period after the front passed, you were given a clear reminder that the calendar still read January!

Psychologically, the air probably felt extra cold the first day after frontal passage because of the sharp contrast with temperatures during the preceding week. In a real sense, a certain temperature can feel different depending on other variable atmospheric conditions occurring at the time. A temperature of 60 degrees on a clear, windless, March afternoon in Indiana can feel almost balmy after a long cold period in February. Yet, this same temperature can feel uncomfortably cool on a cloudy, summer afternoon with a strong wind blowing. The human body's perception of temperature changes as other atmospheric conditions vary. The reason for these changes is related to how our bodies exchange heat with the air around us.

The human body maintains a certain temperature primarily by converting food into heat. To keep the temperature constant the body must produce the same amount of heat that it loses to its surroundings. There is a continuous exchange of heat between the body and

the environment. This occurs mainly at the surface of the skin.

One way that the body loses heat is by giving off infrared energy through radiation (heat can be absorbed this way as well). Other ways that the body loses or gains heat is through conduction and convection which exchange heat with the body by air motion. On a cold day, cold air molecules move over exposed warm skin, gain heat, and then move away. This process will continue until the air temperature and the skin temperature become the same at which point, no heat exchange will occur. When the air is calm, a thin layer of air molecules close to the skin is warmed making it slightly more difficult for the colder air molecules to get heat from the skin. In cold temperatures when the wind is calm, the temperature that we perceive, called sensible temperature, is often higher than the actual thermometer reading.

Once the wind starts to blow however, this warm layer of air molecules next to the skin is removed and heat is rapidly removed from the skin by the constant contact with colder air. The faster the wind blows, the greater the heat loss and the colder we feel. The "wind chill factor" is the way that our sensible temperature is expressed when cold air in motion is moving across exposed flesh. Since the value of the wind chill is given for exposed skin, individual perceptions will vary depending on the fit and type of clothing you may be wearing.

The wind chill factor gives a relative strength of the ability of moving air to take heat away from the body. An outside temperature of 10 degrees with a wind speed of 25 mph produces a wind chill temperature of -29 degrees. This means that on exposed skin areas, the body would lose as much heat in one minute with 10 degrees and 25 mph winds as it would in calm air with an actual temperature of -29 degrees. One common misconception is that objects can get as cold as the wind chill temperature. This is not true. Objects exposed to the air will cool (or warm) to the actual surrounding air temperature. However, wind will cool (or warm) a relatively warm object much quicker to the surrounding colder air temperature than if there was no wind.

See CHILL on page 8



Boy, is it cold !

Remember When?

From November 1985 Midstate News

Brad Stone, Editor

PAN AM HAMS

In preparation for the Pan Am games in 1987 one of the areas of research is to determine what are the capabilities of amateurs in the Central Indiana area to communicate. At the present time it is not known to what extent amateurs will be called upon to serve, if any at all. As the technical co-ordinator of the AD-HOC committee preparing for the games, I am doing a preliminary study of types of communications that the area amateurs can provide. I would like to meet with radio club, repeater groups or repeater owners/tech committees to better understand who and what is available. An area of special interest to myself is talking with repeater groups outside of the Marion County area to discuss if there is any interest in linking or networking repeaters for emergency communications or special events.

-KB9B, Steve Abner

Editors note:

The Tenth Pan American Games turned out to be one of the largest international sporting events ever held in central Indiana. The 1987 Pan American Games involved hundreds of Amateur Radio operators including many from the Mid-State ARC. Those helping with W87PAX the special events station were Tom Carroll, N9AZD; Larry Kemp, N9DLN; Pete Lenges, KA9SWI; Mark Quebe, N9EKG; Dan Dews, KK9G and the late Sandy Sanders, WA9RDF. Over 23,000 contacts were made with 139 countries. Hundreds of messages were delivered for the athletes. Several other club members assisted with radio communications at venues in Johnson and Brown counties. ¹MARC

Thoughtful: "I want your driver's license. This is your library card," the officer said. "I know," the driver replied. "I thought you might like something to read while I find it." --from 12/96 ARNS Newsletter

Phase 3D



Launch Delayed

The European Space Agency has announced a launch delay for Ariane 502, the rocket that is supposed to carry Phase 3D. AMSAT-NA Executive Vice President Keith Baker, KB1SF, reports that the launch has been pushed back to "early July," but said a specific launch date was not yet available. ESA said the change resulted from the recent establishment of a "detailed timetable" that's required to permit launch. A brief ESA news release said: "As each individual operation will require very close analysis, the 502 campaign is scheduled to begin on Wednesday 9 April 1997, the launch itself being planned for early July."

Checked & Rechecked

"We'll be ready," said Baker, adding that the new schedule will give AMSAT "a little more time to make things right." The Phase 3D satellite itself is under assembly in Orlando, Florida. Baker said there's still a lot of work to be done, but the project was on schedule for an April launch. The new launch schedule means that the Phase 3D satellite will not be operational until September or October. "Obviously we would like to have the satellite in orbit a lot sooner," said Baker. "But we don't want anything to be launched if it's not ready."

No costly mistakes

AMSAT-NA President Bill Tynan, W3XO, welcomed the news. "It gives us a definite goal to shoot for in our preparations of the Phase 3D spacecraft," he said but added that "for every month the launch is pushed back means more funds are needed." Tynan noted that a request for additional contributions to the project will go out to all AMSAT members. "It is particularly important to the successful completion and launch of Phase 3D that recipients of this letter respond as generously as they can," he said. All Amateur Radio operators are encouraged to contribute to the Phase 3D program. -- Newsline '96

RF tests delayed

The Commission has amended its rules to extend the transition period for applicants and station licensees to determine compliance with the new requirements for evaluating the environmental effects of radiofrequency (RF) electromagnetic fields from FCC-regulated transmitters. In 1985, the Commission adopted rules for evaluating the environmental effects of RF electromagnetic fields produced by FCC-regulated transmitters. In August 1996, the Commission amended those rules by provided for the use of new guidelines and methods, and established a transition period, until January 1, 1997, for applicants and stations to come into compliance with the new requirements. The American Radio Relay League, Inc., Ameritech Mobile Communications, Inc., AT&T Wireless Services, Inc., BellSouth Corporation, Paging Network, Inc., the Personal Communications Industry Association and U S West filed petitions asking the Commission to extend the transition period beyond January 1, 1997, arguing that the existing transition period failed to provide adequate time for affected parties to achieve compliance with the new rules.

More time for compliance

The Commission stated that, based on the petitions and comments, it is clear that most station applicants will need additional time to determine that they comply with the new requirements. The Commission noted that an extension of the transition period would: 1) eliminate the need for the filing and granting of individual waiver requests; 2) allow time for applicants and licensees to review the results of the decisions that will be taken in the near future addressing other issues raised in petitions; and 3) permit applicants to review a revised information bulletin and make the necessary measurements or calculations to determine that they are in compliance. The Commission indicated that it did not concur with petitioners who suggest that granting any extension of the transition period will have significant adverse effects on public health. Therefore, the Commission has extended the transition period to September 1, 1997, for most radio services. For the Amateur Radio Service, the transition period has been extended to January 1, 1998. Additionally, the Commission will allow changes to amateur radio operator license examinations to be made as the



Roger Lowary, W9BZ shows his reconditioned Cathederal AM radio. It is one of many AM and ham radios Roger has collected. He will speak about his radio collection at the January meeting.

examinations are routinely revised between now and July 1, 1998. The Commission believes that these extensions are necessary so that applicants and licensees will have adequate time to understand the new requirements and to ensure that their facilities are in compliance with them.--ARRL Dec '96 Newsletter

Florida pirate busted

Another unlicensed broadcaster has been taken off the air in Florida in what the FCC says is a clean-up of pirate operations nationwide. On December 11th agents from the Tampa Office of the Federal Communications Commission, with assistance from the Orlando Police Department shut down the pirate station operation of The Base operating on 106.3 MHZ in the FM broadcast band. Stations that transmit out of frequency between 88 and 108 MHZ must be licensed by the FCC. The Tampa Office had received complaints of possible illegal operations from station WOCL which operates on 105.9 and WXXL which operates on 106.7 both in Orlando. The pirate operator could not produce any type of authorization for use of the frequency. Therefore the FCC agents shut down the illegal operation and confiscated the equipment. Local FCC Spokesman say they are investigating 12 FM pirate operations in the state of Florida alone. The FCC is expected to crackdown on unlicensed broadcasters in all services in the months to come. (Via FCC)

Scouts aid rescue

A ham radio team from Explorer Post 80 of Alexandria, Virginia, helped to locate a missing 11-year-old who had gone off exploring on his own during a mid-October Boy Scout Camporee in the Blue Ridge Mountains at New

Market, Virginia. The team coordinated a search effort involving six hams, who located the youngster about 20 minutes after he'd been reported missing. However, that wasn't the end of the tale. The boy was stranded on a ledge about 75 feet down the side of a cliff, some 100 feet above the bottom of a stone quarry. He couldn't climb back up, and he couldn't continue down. As sub-freezing temperatures approached, the Scouts called in the local rescue team, which successfully had the youngster out of the quarry and on his way to a local hospital in less than two hours. He was treated and released. The Explorer Post 80 net, presided over by Richard Harmon, KE4POK, continued to monitor the activity and report on its progress until the rescue was completed. For his role, Harmon got a big hug from the missing boy's mother.--Jim Wilson, K4BAV--Newsline '96



explained that he ordered them from an Internet sales operation in Florida for \$1,700. He had been smart enough to keep printouts of all his on-line discussions. He gave them to a Captain in the Marion County Sheriff's Department. The Captain called a detective in the Broward County Florida Sheriff's Department. He told the detective that he had three of the county's stolen radios and mentioned the Internet sales offer. He also suggested that Florida law officers use the computer service to pose as prospective buyers. And that's exactly what they did.

HT seller goes down

The detective sent an internet message to an on-line salesman who called himself Captain H.C. He told Captain H.C. that he was in the market for some radios. In a short time he received a reply. Captain H.C. said he had a couple of them for sale. A meeting was set up a meeting to buy the radios. The detective and suspect met in a shopping center. When he was certain he had his man, the detective made his move, arresting the man and charging him with grand theft. A search of the suspect's car and home turned up fifteen more walkie-talkies valued at three thousand dollars each. All had been stolen from Fire Departments in Southern Florida. (Via listener submission)--Newsline '96

LEO fight Update

Hoosier "Sting"

Authorities in Indiana and Florida recently used the World Wide Web to set up an interstate computerized sting. The operation nailed a man allegedly using his Internet home page to sell stolen walkie-talkies. Our tale begins in Indianapolis back on November 7th. That's when a reserve marshal walked into the Metropolitan Emergency Communications Agency. He asked the radio shop to program three radios so they could be used on the areas countywide emergency network. But the technician found that the radios were set to operate on a Florida fire department channel. He became suspicious and checked national computer theft records. That's when he found that the radios had been stolen from fire stations in the Pompano Beach area. The technician wondered how a reserve deputy marshal obtained stolen public safety radios. The deputy

Following the initial furor, the "Little LEOs" threat to 2 meters and 70 cm has slipped from the headlines, but efforts continue to thwart the inclusion of their commercial activities in our popular VHF and UHF bands. Little LEO allocations for the mobile-satellite service below 1 GHz include uplink and downlink frequencies on both sides of 2 meters. Proponents of the technology claim these existing allocations are inadequate. At a May meeting of Informal Working Group 2A (IWG-2A)--where the needs of the low-earth-orbiting satellite industry were addressed in preparation for the 1997 World Radiocommunication Conference (WRC-97)--the Little LEOs sought, over League objections, to include 144-148 MHz and 420-450 MHz on their list of "candidate bands," proposing to share the spectrum with hams. While the Little LEO proponents have not backed off, neither have they submitted any technical documentation to show that sharing with the wide variety of amateur uses could actually work. --ARRL Dec '96 Newsletter

Be Smart - Test NOW!

New test questions

Sharpen your test pencils, effective July 1, 1997 five additional RF-Safety questions will be added to the Novice and Technician class written exams. New to these pools is a separate RF-Safety subelement, subelement 10, implemented with an FCC Rules change that took effect in August 1996. The new rules required that five additional exam questions be immediately added to the Novice, Technician and General class written exams. The General class written exam will gain its five additional exam questions on July 1, 1998. The new questions pools can be downloaded from the ARRL info server (info@arrl.org) or the ARRL Web page at <http://www.ARRL.ORG/arrlvec/>.

Test fee increase

You will need to dig a little deeper into your change pocket to take your next Amateur Radio test. Effective January 1, 1997 the test fee charged by ARRL VE's at ARRL/VEC-coordinated test sessions will be \$6.25 (up from \$6.05 in 1996). No fee will be charged for a person taking only Elements 1A and/or Element 2--(an ARRL/VEC policy). Also, a \$6.25 processing fee will be charged to Morse code exemption (Physician's Certification) applicants. --ARRL January '97 VE Newsletter

You write the test

If your New Years Resolution calls for getting that General class license, you have the opportunity to write your own test questions. Beginning February 1 and running through June 30, 1997, is the public's (your) opportunity to submit questions or comment on the future General class question pool. Comments would include what would you like to see changed, added, deleted or otherwise modified in the future General class question pool to prepare future General class licensees. If you wish to offer input on the General pool, or future syllabus's or pools, direct your input to: QPC Chairman Raymond Adams, 4BAQ, 5833 Clinton Hwy. -Ste 203, Knoxville, TN 37912-500. --ARRL January 1997 VE Newsletter

More HF freq's

High Frequency (3-30 MHz) Spectrum Planning Options, a planning document released December 13, 1996 by the National Telecommunications and Information Administration, says the HF spectrum is flexible enough "to accommodate most, if not all," demands for additional HF spectrum, including new and bigger HF ham bands. The NTIA is an Executive Branch agency in the Department of Commerce that's responsible for developing telecommunications policy and advising the President on telecommunications matters. The Options report addresses spectrum availability and long-range planning options for services that were identified in the earlier report as needing additional HF spectrum--including Amateur Radio. The report cites a potential 900 kHz or so of expanded or upgraded allocations for Amateur Radio in the HF spectrum, including:

1. An exclusive, worldwide allocation at 3500 to 3800 kHz
2. A new band at 4945 to 4995 kHz (additional technical studies would be required)
3. An "aligned worldwide" allocation at 6900 to 7200 kHz (replacing the current band at 7000 to 7300 kHz for the US and the rest of Region 2)
4. Expanded worldwide, primary allocations at 10100 to 10350 and 14000 to 14400 kHz
5. Expanded allocations at 18068 to 18318, 24740-24890, and 28000 to 30000 kHz.

Some of the potential expansions proposed for amateurs and broadcasting are mutually exclusive or could involve sharing by the two services. These include the potential expansions at 30, 20 and 17 meters. Ham radio allocations account for 13.1% of the HF spectrum (3 to 30 MHz). "There are no current plans to auction any HF spectrum," the NTIA report states, but notes that additional allocations for ham radio would come at the expense of other services--primarily fixed, fixed-mobile and broadcasting. "The expansion and upgrading of amateur allocations in the 10 MHz, 14 MHz, 18 MHz, and 24 MHz [bands] appear acceptable; however, this will depend on future decrease of requirements for the aeronautical mobile (R) or the fixed services internationally," the report said. Changes in the 80 and 40-meter bands "will require the inclusion of these proposals in US preparations for future WRCs," the report added. A requested allocation at 6900-7200 would serve "to reduce inter-regional sharing and interference from HF broadcasting in the 7100-7300 kHz band," the report said. The report called the requested upgraded allocation at 3500 to 3800 kHz "a good candidate for a common worldwide exclusive amateur allocation at the 3.5 MHz band." The additional allocation of 3800 to 4000 kHz to the Amateur Service in Region 2 would not be affected." --Newsline '96

January's Birthdays

Bill Brinkmann, KA9ZMU 10th
 Charles Osborne, KB9IOX 19th
 Dan O'Connell, K9VQI 9th
 Dennis Parton, KB9HPQ 3rd
 Ed Conder, N9IZN 30th
 George Weimer, KG9HU 3rd
 Joe Lenges, KA9SWI 15th
 John Ankrom, N9VQW 22nd
 Keith Cohoon, K9PDI 22nd
 Larry Wraley, N9YQQ 3rd
 Louis Beam, N9VKH 16th
 JR Osborne, KB9HSE 14th
 Mike Holland, M9MH 31st
 Paul Easley, KA9KAI 20th
 Rick Matlock, KB9KQE 30th
 Bob Cammack, N9IMP 13th
 Vernon Gill, N9QBO 29th
 Jesse Vergara, KB9NZB 3rd

Chill- con't from page 3

The moisture content of the air also plays a role in how cold we feel. A cold and damp day often feels colder than a cold dry day. This is because moist air can conduct heat away from the body much better than dry air. If exposed skin or clothing becomes wet, the removal of body heat is significantly increased lowering our sensible temperature. Hypothermia results when a person loses body heat faster than the body can produce it. The National Weather Service will normally issue a Wind Chill Advisory when wind chill temperatures are expected to reach -20 degrees fahrenheit. If the wind chill temperatures are expected to dip to -35 degrees or colder, a Wind Chill Warning will be issued. For those mathematicians out there, you can calculate the wind chill using the following equation:

$$T(WC) = 0.0817(3.71V'' + 5.81 - 0.25V)(T - 91.4) + 91.4$$

V = wind speed in mph

V'' = wind speed in mph to the 0.5 power

t = temperature in degrees fahrenheit

QST on CD's

You don't need to keep a musty stack of back issues of QST in your basement anymore. The ARRL's QST View CD-ROM sets are now available! You can order 1990-94 or 1985-89—or both (\$39.95 each). QST View CD-ROM includes back issues of QST in convenient, space-saving CD-ROM format. Each page—all the ads, articles, columns and covers—has been scanned to provide a black-and-white image you can either read from your screen or print. Easy-to-use software included on the CD lets you search for articles by title and author, select specific year and issue, and browse individual articles or columns. Each three-disk set has an index to aid in finding the page or section of the issue you want to view or print. In addition, The ARRL Handbook CD 1.0, the electronic version of The 1997 ARRL Handbook for Radio Amateurs, now is available for immediate shipping. You can order these and other products using the ARRL Web on-line catalog. http://www.arrl.org/catalog/specials/holiday_special.html.
 —ARRL Bulletin

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